

REMARKS

Appreciation is hereby expressed to Examiners Wells and Padmanabhan, for the interview so helpfully and professionally conducted on October 9, 2002. In accordance with the discussions held during said interview, claims 1, 2, 5-7, 9 and 23 have been rewritten, and claims 18-22 and 24-26 cancelled, to obviate the rejections and more definitely define the inventions. This amendment is believed not to add new matter. Claims 1-17 and 23 remain in the application.

With regards to the Examiner's comments on page 2 of the instant Office Action regarding the priority documents, the undersigned's hereby submit certified copies of said priority documents, i.e., PCT Application No. PCT/JP91/01087 and Japanese Patent Application No. H02-216403, filed August 15, 1991 and August 16, 1990, respectively. In addition, English translations of both priority documents are attached hereto as well.

In view of these submissions, it is believed that Applicants are now entitled to receive benefit of the filing date of same, the earliest thereof being August 16, 1990. Benefit of this priority date is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of claims 1-26 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly

claim the subject matter which applicant regards as the invention.

As discussed during the interview, the terms "flaky" and "scaly" are believed to be definite and known to one of ordinary skill in the art, as having physical characteristics, for example, like those of the "natural mica group including common mica, biotite, and sericite, or synthetic mica, talc, platelike silica, platelike titania, and glass flakes" (see Specification, page 4, paragraph 6). The Examiner indicated during the interview that, in view of the examples pointed out in the Specification, that "flaky", "fine" or "scaly" were no longer deemed to be indefinite.

With regards to the Examiners' comments in paragraph (iii) on page 3 of the instant Office Action, proposed amendments to claims 1, 2, 5 and 23, to clarify that SiO_2 or mixtures of same with metal oxides are added to the dispersion. The Examiners indicated that these amendments would overcome the rejection.

Claims 6, 7 and 9 have been amended to delete the vague term "sufficient quantity". Further, claims 18-22 and 24-26 have been deleted. It is believed that these amendments overcome the rejections as set forth in paragraphs (iv), (v) and (vi) of the instant Office Action.

As shown above, claim 23 has been amended to clearly state

that the hydrolyzation of tetraethoxysilane in the dispersion cause precipitation of the silica and immobilization of the silica on the surface of the mica flakes. It is believed that this amendment overcomes the rejection set forth in paragraph (vii) of the instant Office Action, as set forth on page 3 thereof.

In view of the amendments made to the claims, as discussed with Examiners Wells and Padmanabhan during the interview conducted on October 9, 2002, it is believed that the Examiner would be justified in no longer maintaining the rejection. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of claims 1-26 under 35 U.S.C. §103(a) as being unpatentable over Seo, et al. (6,030,627) in view of Prengel et al. (5,407,746).

As stated above, the undersigned's submit herewith certified copies of the priority documents, as well as English translations thereof. It is believed that the submission of these documents perfects priority, i.e., entitles the present inventors to claim an effective filing date of August 16, 1990.

Both the Seo et al. and Prengel et al. cited references have filing dates and issue dates after this effective filing date. Thus, it is believed that the cited references fail as prior art.

In view of same, it is believed that the rejection is now moot. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of claims 1-23 under 35 U.S.C. 103(a), as being unpatentable over Tanaka, et al. (6,355,260) in view of Prengel et al.

The cited Prengel et al. reference is discussed above.

The cited Tanaka, et al. reference, as with the Seo et al. and Prengel et al. references discussed above, has a later effective date than the priority application filed herewith. Based on the benefit of priority obtained by the filing of the certified copies and English translations, it is believed that the Tanaka et al. reference no longer qualifies as prior art.

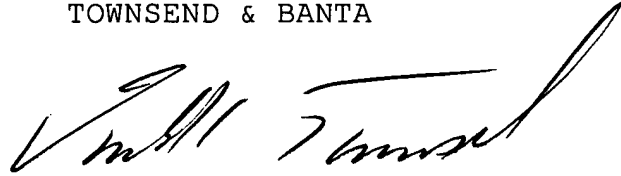
In view of the inability of the cited Tanaka et al. reference to be cited as prior art, it is believed that the rejection now fails. Withdrawal of the rejection is accordingly respectfully requested.

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action and allowance thereof is accordingly respectfully requested. In the event there is any reason why the application cannot be allowed at the present time, it is respectfully requested that the Examiner contact the undersigned at the number

listed below to resolve any problems.

Respectfully submitted,

TOWNSEND & BANTA

A handwritten signature in black ink, appearing to read "Donald E. Townsend". The signature is fluid and cursive, with a large, sweeping initial "D".

Donald E. Townsend
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A handwritten signature in black ink, appearing to read "Donald E. Townsend, Jr.". The signature is cursive and somewhat stylized.

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Date: November 15, 2002

MARKED-UP VERSIONS OF AMENDED CLAIMS 1, 2, 5-7, 9 AND 23:

1. (Amended) A method of producing a flaky fine powder,
[which comprises] comprising:

adding alkoxysilane and/or silicic acid solution to a
dispersion containing a flaky or scaly base and spherical silica
particles, and

immobilizing said spherical silica particles on the surface
of said said flaky or scaly base by hydrolyzing said alkoxysilane
and/or gelling said silicic acid solution,

said flaky or scaly base having a thickness of about 1 μm or
less and is selected from the group consisting of mica, talc and
platelet shaped silica[;],and said spherical silica particles
[comprising] comprise SiO_2 or a mixture of SiO_2 with one or more
of Al_2O_3 , ZrO_2 , MgO , ZnO , CeO_2 or Fe_2O_3 , said spherical silica
particles being non-porous and having an average particle size of
0.05-3 μm [and being immobilized on the surface of said flaky or
scaly base by hydrolyzing said alkoxysilane and/or gelling said
silicic acid solution],

wherein [and] the permittivity (ϵ) of said dispersion is in
the following range[;]:

$$15 \leq \epsilon \leq 80$$

and the ion concentration (N) of the sum of cations and anions in

said dispersion satisfies the following conditions[,]:

- (a) $200 \text{ ppm} \leq N \leq 5 \cdot 10^4 \text{ ppm}$, when ϵ is 15,
- (b) $3 \cdot 10^4 \text{ ppm} \leq N \leq 2 \cdot 10^5 \text{ ppm}$, when ϵ is 80, and
- (c) N is in a quadrilateral area formed by A (15, 200), B (15, $5 \cdot 10^4$), C (80, $2 \cdot 10^5$) and D (80, $3 \cdot 10^4$) in the (X,Y) coordinate system with the X axis for the permittivity (ϵ) (-) and the Y axis for the ion concentration (N) (ppm), when $15 \leq \epsilon \leq 80$.

2. (Amended) A method of producing a flaky fine powder [which comprises] comprising:

(a) dispersing a flaky or scaly base having a thickness of about 1 μm or less selected from the group consisting of mica, talc and platelet shaped silica[;], and spherical silica particles comprised of SiO_2 or a mixture of SiO_2 with one or more of Al_2O_3 , ZrO_2 , MgO , ZnO , CeO_2 or Fe_2O_3 , in a dispersion medium comprising an organic solvent and/or water, to adhere said spherical silica particles on the surface of said flaky or scaly base, [then] and

(b) adding alkoxysilane and/or silicic acid solution to the obtained dispersion,

said spherical silica particles being non-porous and having an average particle size of 0.05-3 μm and immobilized on the surface of said flaky or scaly base by hydrolyzing said alkoxysilane and/or gelling said silicic acid solution, [and]

wherein the permittivity (ϵ) of said dispersion is in the following range[;]:

$$15 \leq \epsilon \leq 80$$

and the ion concentration (N) of the sum of cations and anions in said dispersion satisfies the following conditions[,]:

- (a) $200 \text{ ppm} \leq N \leq 5 \cdot 10^4 \text{ ppm}$, when ϵ is 15,
- (b) $3 \cdot 10^4 \text{ ppm} \leq N \leq 2 \cdot 10^5 \text{ ppm}$, when ϵ is 80, and
- (c) N is in a quadrilateral area formed by A (15, 200), B (15, $5 \cdot 10^4$), C (80, $2 \cdot 10^5$) and D (80, $3 \cdot 10^4$) in the (X,Y) coordinate system with the X axis for the permittivity (ϵ) (-) and the Y axis for the ion concentration (N) (ppm), when $15 \leq \epsilon \leq 80$.

5. (Amended) A method of producing a flaky fine powder [which comprises] comprising:

dispersing (a) a flaky or scaly base having a thickness of about 1 μm or less selected from the group consisting of mica, talc and platelet shaped silica[;], and (b) spherical silica particles comprised of SiO_2 or a mixture of SiO_2 with one or more of Al_2O_3 , ZrO_2 , MgO , ZnO , CeO_2 or Fe_2O_3 , in a dispersion medium, [whereby] said spherical silica particles being non-porous and having an average particle size of 0.05-3 μm ,

said spherical silica particles being [are] deposited on a surface of said flaky or scaly base in said dispersion medium, and a flaky, fine powder [is] being obtained by filtering,

and a flaky, fine powder [is] being obtained by filtering, washing and drying the obtained dispersion, [and]

wherein the permittivity (ϵ) of said dispersion is in the following range:

$$15 \leq \epsilon \leq 80$$

and the ion concentration (N) of the sum of cations and anions of said dispersion satisfies the following conditions,

$$200 \text{ ppm} \leq N \leq 5 \cdot 10^4 \text{ ppm, when } \epsilon \text{ is } 15,$$

$$3 \cdot 10^4 \text{ ppm} \leq N \leq 2 \cdot 10^5 \text{ ppm, when } \epsilon \text{ is } 80, \text{ and}$$

N is in a quadrilateral area formed by A (15, 200), B (15, $5 \cdot 10^4$), C (80, $2 \cdot 10^5$) and D (80, $3 \cdot 10^4$) in the (X,Y) coordinate system with the X axis for the permittivity (ϵ) (-) and the Y axis for the ion concentration (N) (ppm), when $15 \leq \epsilon \leq 80$.

6. (Amended) The method according to claim 5, further comprising immobilizing said spherical silica particles on the surface of said flaky or scaly base by adding [a sufficient quantity of] alkoxysilane and/or silicic acid solution to said dispersion.

7. (Amended) The method according to claim 5, further comprising immobilizing said spherical silica particles on said surface of said flaky or scaly base by adding [a sufficient

quantity of] alkoxysilane to said dispersion and hydrolysing said alkoxysilane.

9. (Amended) The method according to claim 5, further comprising immobilizing said spherical silica particles on the surface of said flaky or scaly base by adding [a sufficient quantity of] silicic acid solution to said dispersion, and gelling said solution.

23. (Amended) A method of producing a flaky fine powder [having improved light scattering properties, which comprises] comprising:

hydrolyzing tetraethoxysilane in a dispersion containing mica flakes [each] having a thickness of about 1 μm or less, to thereby precipitate the silica and immobilize said silica on the surface of said mica flakes non-porous spherical silica particles having an average particle size of 0.05-3 μm , [and]

wherein the permittivity ϵ of said dispersion is in the following range;

$$15 \leq \epsilon < 80$$

and the ion concentration (N) of the sum of cations and anions in said dispersion satisfies the following conditions,

(a) $200 \text{ ppm} \leq N \leq 5 \cdot 10^4 \text{ ppm}$, when ϵ is 15,

(b) $3 \cdot 10^4 \text{ ppm} \leq N \leq 2 \cdot 10^5 \text{ ppm}$, when ϵ is 80, and

(c) N is in a quadrilateral area formed by A (15, 200), B

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(15, $5 \cdot 10^4$), C (80, $2 \cdot 10^5$) and D (80, $3 \cdot 10^4$) in the (X,Y) coordinate system with the X axis for the permittivity (ϵ) (-) and the Y axis for the ion concentration (N) (ppm), when $15 \leq \epsilon \leq 80$.